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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,864	03/10/2004	Douglas M. Kerchner	GP-303600	3732
7590	08/24/2005		EXAMINER TRAN, BINH Q	
LAURA C. HARGITT General Motors Corporation Mail Code 482-C23-B21 P.O. Box 300 Detroit, MI 48265-3000			ART UNIT	PAPER NUMBER
			3748	
DATE MAILED: 08/24/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	<p>Application No.</p> <p align="center">10/797,864</p>	<p>Applicant(s)</p> <p align="center">KERCHNER, DOUGLAS M.</p>	
	<p>Examiner</p> <p align="center">BINH Q. TRAN</p>	<p>Art Unit</p> <p align="center">3748</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 9-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date ____.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)
 Paper No(s)/Mail Date. ____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: ____.</p> |
|--|---|

DETAILED ACTION

Election / Restriction

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I.* Claims *1-8*, drawn to *a piping arrangement for vehicle exhaust system*, classified in class *285*, subclass *290*.
- II.* Claims *9-18*, drawn to *a muffler for connecting with an exhaust pipe of an internal combustion engine*, classified in class *181*, subclass *224*.

Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case, the different inventions have different modes of operation. Specifically, claims 8-18 require an array of baffle plates within the housing and first and second end cap plates closing the housing, and wire bushings between at least one of the pipes and the holes in the plates to compensate for the different rates of thermal expansion between the pipes and plates.

Because these inventions are distinct for the reason given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

During a telephone conversation with Ms. Laura Hargitt (Reg. No. 43,989) on August 10, 2005 a provisional election was made without traverse to prosecute the invention of II, claims 9-18. Affirmation of this election must be made by applicant in replying to this Office Action. Claims 1-8 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 9, and 12-18 are rejected under 35 U.S.C. 102 (b) as being anticipated by Takewaka et al. (Takewaka) (Patent Number 6,189,650).

Regarding claims 9 and 12, Takewaka discloses a muffler (30) for connecting with an exhaust pipe of an internal combustion engine (15), the muffler including a housing (31) enclosing a space with a sound attenuating system therein, the muffler assembly comprising: an array of baffle plates (e.g. Fig. 2) within the housing and first and second end cap plates (e.g. See Fig. 2) closing the housing, the plates having first rates of thermal expansion and being spaced from one another to define chambers within the housing (e.g. See Fig. 2); pipes (e.g. 21, 31, 32) extending through holes (e.g. 32a) in the plates (e.g. See Figs. 2, 5), wherein the holes are defined by axially extending surfaces, the pipes interconnecting the chambers and having second rates of thermal expansion different from the first rates, and wire bushings (e.g. 34, 35, 36, 37, 38) between at least one of the pipes and the holes in the plates to compensate for the different rates of thermal expansion between the pipes and plates (e.g. See Figs. 2 and 5; col. 4, lines 25-67; col. 5, lines 1-57).

Regarding claim 13, Takewaka further discloses that the strand bushings are metal wire strands which have discontinuous fixed contact with the exterior surfaces of the pipes at least in the axial direction of the pipes and holes (e.g. See Figs. 2 and 5; col. 4, lines 25-67; col. 5, lines 1-57).

Regarding claim 14, Takewaka further discloses that each of the bushings is comprised of at least one strand of metal wire wrapped about the exterior surfaces of the pipes in at least a first layer (e.g. See Figs. 2 and 5; col. 4, lines 25-67; col. 5, lines 1-57).

Regarding claim 15, Takewaka further discloses that there is at least one additional layer of metal wire strand wrapped over the first layer of metal wire strand (e.g. See Figs. 2 and 5; col. 4, lines 25-67; col. 5, lines 1-57).

Regarding claim 16, Takewaka further discloses that the first layer of metal wire strand is a helix slanting in a first axial direction and wherein the additional layer metal wire strand is a helix slanting in an axial direction opposite the first axial direction (e.g. See Figs. 2 and 5; col. 4, lines 25-67; col. 5, lines 1-57).

Regarding claim 17, Takewaka further discloses that there are more than two layers of metal wire strand each slanting in a different axial direction than layer adjacent thereto (e.g. See Figs. 2-5; col. 4, lines 25-67; col. 5, lines 1-67; col. 6, lines 1-15).

Regarding claim 18, Takewaka further discloses that the strand bushings are made of carbon, polytetrafluoroethylene, natural fibers, or temperature resistant polymers (e.g. See Figs. 2-5; col. 5, lines 17-67; col. 6, lines 1-15).

Claims 9, and 12-17 are rejected under 35 U.S.C. 102 (b) as being anticipated by Inuzuka et al. (Inuzuka) (Patent Number 6,189,650).

Regarding claims 9 and 12, Inuzuka discloses a muffler (10) for connecting with an exhaust pipe of an internal combustion engine, the muffler including a housing (11) enclosing a space with a sound attenuating system therein, the muffler assembly comprising: an array of baffle plates (e.g. 15, 44, 45, 74, 75) within the housing and first and second end cap plates (e.g.

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12, 13, 42, 43, 72, 73) closing the housing, the plates having first rates of thermal expansion and being spaced from one another to define chambers within the housing (e.g. See Figs. 1-7); pipes (26, 36, 51, 81) extending through holes (e.g. 24, 29) in the plates (e.g. See Figs. 1-7), wherein the holes are defined by axially extending surfaces, the pipes interconnecting the chambers and having second rates of thermal expansion different from the first rates, and wire bushings (e.g. 25, 30) between at least one of the pipes and the holes in the plates to compensate for the different rates of thermal expansion between the pipes and plates (e.g. See col. 3, lines 55-67; col. 4, lines 1-67; col. 5, lines 1-55).

Regarding claim 13, Inuzuka further discloses that the strand bushings are metal wire strands which have discontinuous fixed contact with the exterior surfaces of the pipes at least in the axial direction of the pipes and holes (e.g. See col. 3, lines 55-67; col. 4, lines 1-67; col. 5, lines 1-55).

Regarding claim 14, Inuzuka further discloses that each of the bushings is comprised of at least one strand of metal wire wrapped about the exterior surfaces of the pipes in at least a first layer (e.g. See col. 3, lines 55-67; col. 4, lines 1-67; col. 5, lines 1-55).

Regarding claim 15, Inuzuka further discloses that there is at least one additional layer of metal wire strand wrapped over the first layer of metal wire strand (e.g. See col. 3, lines 55-67; col. 4, lines 1-67; col. 5, lines 1-55).

Regarding claim 16, Inuzuka further discloses that the first layer of metal wire strand is a helix slanting in a first axial direction and wherein the additional layer metal wire strand is a helix slanting in an axial direction opposite the first axial direction (e.g. See col. 3, lines 55-67; col. 4, lines 1-67; col. 5, lines 1-55).

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Regarding claim 17, Inuzuka further discloses that there are more than two layers of metal wire strand each slanting in a different axial direction than layer adjacent thereto (e.g. See col. 3, lines 55-67; col. 4, lines 1-67; col. 5, lines 1-55).

Allowable Subject Matter

Claims 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Since allowable subject matter has been indicated, applicant is encouraged to submit formal drawings in response to this Office action. The early submission of formal drawings will permit the Office to review the drawings for acceptability and to resolve any informalities remaining therein before the application is passed to issue. This will avoid possible delays in the issue process.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of five patents:

Sager, Jr. et al. (Pat. No. 5350888), Rutt (Pat. No. 4137993), Storm (Pat. No. 6571910), Hall (Pat. No. 3581842), and Kraai et. al. (Pat. No. 5365025) all disclose an exhaust gas purification for use with an internal combustion engine.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Binh Tran whose telephone number is (571) 272-4865. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reach on (571) 272-4859. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BT
August 19, 2005



Binh Q. Tran
Patent Examiner
Art Unit 3748